

FURTHER PROPOSED AMENDMENTS TO THE
INTERNATIONAL CODE OF ZOOLOGICAL NOMENCLATURE
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By the Secretary, International Commission on
Zoological Nomenclature

In July 1978 the Editorial Committee of the Commission met in London for a week's consideration of a number of general matters of principle affecting the Code. Four main topics were discussed:

1. Status of names on the Official List
2. Paranomenclature
3. Report of the committee on the typification of species of protozoa
4. "Type of a name" versus "type of a nominal taxon"

2. On the first and fourth topics, it was agreed that debates should be initiated in the *Bulletin*, and this was done (see vol. 35: 151–155, 156–167). On the third topic, the Committee's report (see vol. 35: 200–208) was discussed and their detailed proposals approved. Comments from zoologists on these topics are awaited. The second topic was discussed at length and agreed proposals were drafted for substantive changes in the Code. These are presented here.

PARANOMENCLATURE

3. Paranomenclature is the nomenclature of parataxa. Parataxa are fossil fragments or detached organs that can be classified in genera and species that do not coincide with the genera and species of the more complete fossils to which they belong. In the groups concerned, therefore, a dual nomenclature exists, contrary to Article 24 of the Code. It contributes nothing to say that Article 24 must be applied so that the Law of Priority will determine whether the name of the first-named fragment will become the name of the more complete fossil, or *vice versa*, depending on the individual case. These dual nomenclatures reflect dual taxonomies and they exist to meet a real need among palaeontologists. It is therefore incumbent on the Commission to find a way of adapting the Code to fit that need.

4. The question of whether the Code should or should not regulate the names of parataxa was exhaustively discussed in the

papers prepared for the London (1958) International Congress of Zoology (see *Bull. zool. Nom.* vol. 15: 5–120, 158–184, 216–246, 296–314, 345–350, 686–690, 705–728, 759–761, 826–851, 968–973, 1241). The Colloquium preceding the Congress decided to defer consideration of the question, which was eventually entrusted to a committee with instructions to report to the Washington (1963) Congress. The report recommended that no further consideration be given to the problem of parataxa, and the matter was accordingly dropped. It may be thought that the matter was over inflated at London, and that Washington went to the other extreme.

5. If it is true that the Code does not limit the freedom of taxonomic thought and action, then it cannot deny palaeontologists the right to classify fossil fragments in a different pattern from more complete fossils if, by so doing, they get and transmit a fuller understanding of the animals in question and make a richer contribution to geology. Furthermore, to apply Article 24b(i) strictly to discrete conodonts and conodont assemblages; to aptychi and ammonite phragmocones; to nautiloid jaws and nautiloid phragmocones; would introduce intolerable chaos into fields already producing a rich enough harvest of difficulties.

6. A different problem in paranomenclature is presented by the names of trace fossils. These are indisputably signs of the work of animals, yet Articles 16a(viii) and 24b(iii) reduce their nomenclature to chaos in a quite irrational manner: these provisions allow, in the former case, availability, and in the latter, validity, to names based on the work of animals if they were published before 1931, but not if they were published after 1930. Yet the most exciting developments in ichnology and ichnotaxonomy have taken place in the last thirty years. The failure of the zoological Code to provide for the nomenclature of ichnotaxa has caused resentment to the point where a draft code has been published especially for them (Sarjeant, W.A.S. & Kennedy, W.J., 1973, *Canadian J. Earth Sci.* vol. 10: 460–475). Unfortunately, that draft is modelled closely on the Botanical Code and introduces into the Animal Kingdom a number of nomenclatural principles that are foreign to our Code. Such an introduction would not contribute towards clarity and uniformity of nomenclature in the Animal Kingdom. However, Sarjeant & Kennedy state clearly the two chief problems of trace-fossil nomenclature: one is that a single animal may produce a variety of structures, to which different names have been given; the other is, as with parataxa, the confusion caused by applying the Law of Priority [Article 24b(iii)] to the names of trace-fossils and to their causative organisms, when these are known.

7. The paradox becomes even more acute when it is found that the Code does, after all, admit a sort of paranomenclature, in dealing with collective groups, which are, in origin, larval stages of helminth worms that cannot be allocated to the same genera and species as the adult worms. Their names are treated in all respects as generic names, but collective groups require no type species. Here, then, is a licensed dual nomenclature for different stages in the life cycle of the same creatures.

8. It appears on examination that the logic of collective-group nomenclature has never been carefully thought out. At least some of the names now used for collective groups were first proposed as *bona fide* generic names and have come to be used as collective-group names by accretion of usage, though not in accord with any taxonomic logic. *Cercaria* Müller, 1773, and *Bucephalus* Baer, 1827, both proposed as *bona fide* generic names, are both based on the larval cercaria stage of helminth worms; *Cercaria* has become a collective-group name, applied only to unallocated cercariae; *Bucephalus* is still used as a generic name because the life cycle of its type species, *B. polymorphus* Baer, has been fully worked out. The use of that binomen for the adult worm, however, is weakly founded in logic, for the type specimen of *B. polymorphus* must be a cercaria which it is not possible to allocate, of itself, to an adult species. Indeed, the logical relationship between a cercarian "species", which cannot perpetuate itself directly as a natural population by either sexual or asexual reproduction, and a species that can perpetuate itself may well be open to question.

9. The Editorial Committee had to address itself to the practical rather than the philosophical aspects of these problems. It was greatly helped in this by a lucid exposition prepared by Mr Heppell, who, though not a member of the committee, was invited to take part in its work for that occasion. It was decided to consider separately those entities whose taxa at the genus-group level do not require type species and those whose taxa at that level do require type species. Trace fossils (ichnotaxa) were placed with collective groups in the former category, and parataxa in the other. It was not found necessary to compose an entire new Code for either. More economical, if more subtle solutions were sought by proposing the following additions to the 6th draft of the third edition of the Code:

Article 1a, reorganise from line 3 onwards, as follows: "... living or extinct, including names based on the work of animals, names for fossils that are substitutions (replacements, impressions, moulds and casts) for the actual remains of animals, and names for fossil ichnotaxa and parataxa. The Code is concerned ..."

Article 1b, insert a new clause "(8) for traces of living animals" and renumber existing (8) as (9).

Article 2, add a new Section "(c) *Names for fossil ichnotaxa*. Names proposed for fossil ichnotaxa at any taxonomic level covered by the Code are eligible for use in zoological nomenclature provided that they satisfy the relevant provisions of Chapter IV, but they do not compete in priority with names given to causative organisms and the provisions of Article 13b do not apply to them."

Article 2, add a new Section "(d) *Names for fossil parataxa*. Names proposed for fossil parataxa are eligible for use in zoological nomenclature provided that they satisfy the relevant provisions of Chapter IV, but they do not compete in priority with names given to whole animals. Discrete fossil parts that can be arranged in the same taxa as whole animals at family-group and species-group levels but not at genus-group level may be treated as collective groups [Art. 42b(i)]."

Article 10, insert a new Section "(e) *Names for ichnotaxa and parataxa*. Names proposed for fossil ichnotaxa and parataxa are to be treated as family-group, genus-group, or species-group names, according to the way in which they were first established." The existing sections e, f and g become sections f, g and h.

Article 66, add a new clause "(i) If a type species has been fixed for a collective group, it is to be disregarded."

7. The following additions are proposed for the Glossary: "*ichnotaxon*, *n.* The fossil work or trace of an animal (but not a secretion) which cannot be, or has not yet been, related to the genus or species of causative organism (see Article 2c)."

"*parataxon*, *n.* A taxon based on a fragment or detached organ of an animal which can be classified at genus-group and species-group levels by comparison with other fragments or detached organs, but which cannot be assigned to the same taxa at those levels as the whole animals to which they belong."

8. Comments on these proposals are invited from zoologists in general, and palaeontologists in particular. There is one obvious point that cries out for clarification. It is perfectly well known that no fossil is a complete animal. The conflict in priority where the names of parataxa are concerned is, therefore, not between names for parts and names for whole animals in the strict sense of Article 24b(i), but between names for smaller and larger parts — or between names for small parts and more nearly complete animals. How is this to be expressed in the Code?

9. It should also be noted that the proposals for ichnotaxa concern fossil traces only. Traces of living animals can always be related to their causative organism, and there is no need to name them separately.